

iGS01S Specification

BLE to WiFi Beacon Gateway

iGS01S is a BLE to WiFi gateway and bridge. The gateway reads iBeacon and Eddystone like beacon or customized Tag(w/ sensor) format and sends to local TCP server or internet HTTP/MQTT server. User can configure the transmit period and server information through a simple web UI.



Features

- Size: 55mmx41mmx18mm(antenna not included)
- Input: 5V, 500mA, micro-USB
- Operating temperature: -20°C to 60°C
- Low power consumption, 80mA typical working current
- Over-The-Air software upgrade
- Reads multiple BLE devices in the same time
- Support TCP/HTTP(s)/MQTT(s) server

BLE

- BLE is based on INGICS nBLE822
- On board PCB antenna
- Bi-direction: Reads message advertised from BLE devices and/or advertise command to BLE devices(not standard, by request)
- 30M range in open space

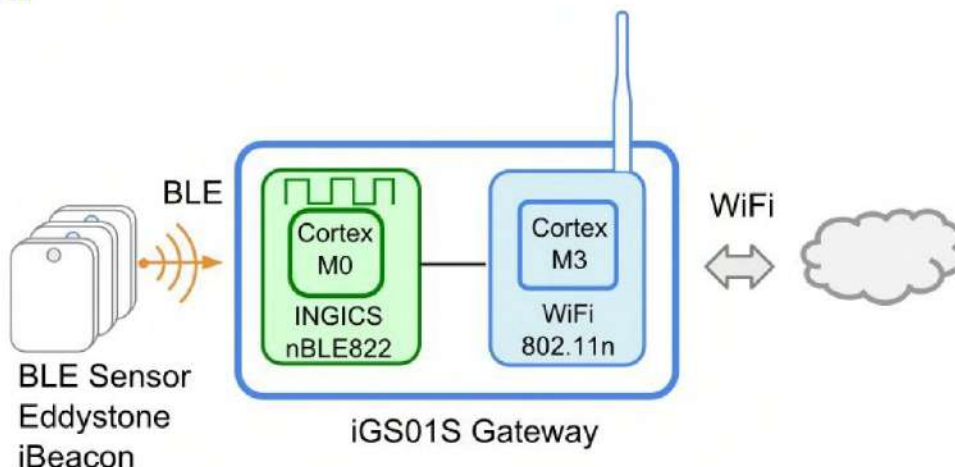
WiFi

- Support 802.11b/g/n(single stream)
- 2.4GHz frequency band
- Transmit power:
 - +17dBm @802.11b
 - +13dBm @802.11g
 - +11dBm @802.11n
- WiFi data rate up to 72.2Mbps
- WiFi with 2dBi dipole Antenna
- Web based UI for configuration
- Connect to Cloud server or local server
- 100M range in open space

Applications

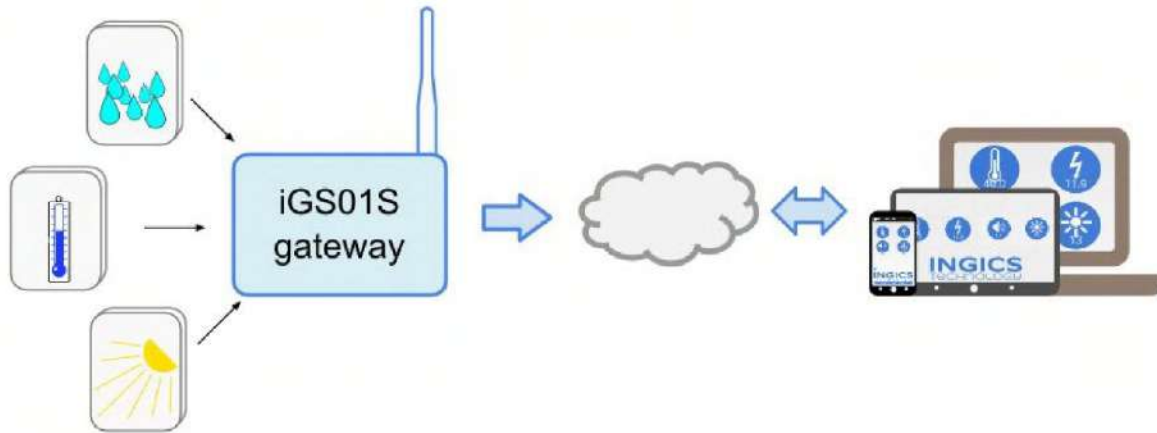
- iBeacon/Eddystone/tag receiver for location tracking
- BLE sensor reader for sensor network
- Building automation
- Health and wellness monitoring
- Cycling, biking
- Security
- Location tracking
- Access management
- Advertisement
- Industrial automation

Block Diagram

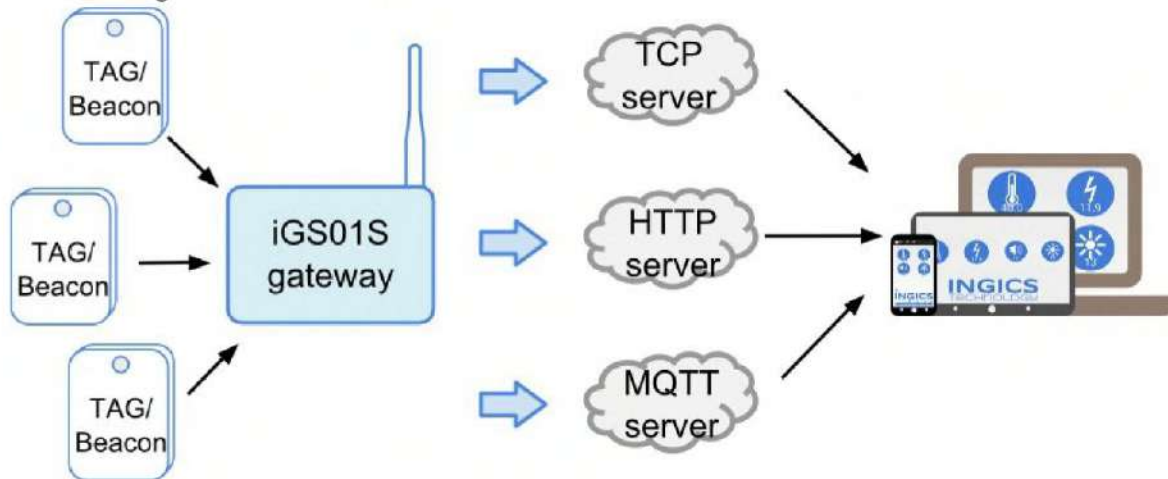


Typical Applications

1. Collecting BLE sensor data and sending to cloud server



2. Location Tracking with different kinds of server in the internet or cloud



Specification

Absolute Maximum Rating

Supply Power	Max. +5.5 Volt
Storage Temperature	-40° to 85° Celsius
Voltage Ripple	+5%

Recommendable Operation Condition

Operating Temperature	-20° to 60° Celsius
Humidity	Max 95%, Non condensing, relative humidity
VDD	+5 Volt +- 5%

Current Consumption

Working mode (reads BLE and sends to server)	Max.: 436 mA Average: 83 mA
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WiFi RF Specification

Wireless	IEEE 802.11b/g/n(single stream)
Network modes	infrastructure, Ad-Hoc
Data rate	IEEE 802.11b, 1-11Mbps IEEE 802.11g, 6-54Mbps IEEE 802.11n(2.4GHz), 7.2-72.2 Mbps
Frequency band	2.400 – 2.484 GHz
Number of selectable Sub channels	14 channels (only use 11 channels be default)
Channel Bandwidth	20MHz(no support to 40MHz)
Modulation	OFDM, DSSS (Direct Sequence Spread Spectrum), DBPSK, DQPSK, CCK , 16QAM, 64QAM
Maximum receive input level	- 10dBm (with PER < 8%@11 Mbps) - 20dBm (with PER < 10%@54 Mbps) - 20dBm (with PER < 10%@MCS7)
Minimum receive input level	- 87dBm (typ. with PER < 8%@11 Mbps) - 70dBm (typ. with PER < 10%@54 Mbps) - 70dBm (typ. with PER < 10%@MCS7)
Transmit Power (including antenna gain)	17dBm (typical), 18dBm(max.)@ 802.11b 14dBm (typical), 15dBm(max.)@ 802.11g 13dBm (typical), 14dBm(max.)@ 802.11n
Carrier Frequency Accuracy	+/- 20ppm (crystal: 26MHz +/-10ppm in 25°C)
Antenna	2dBi dipole antenna
Range	up to 100M meters(in open area)
Security	WPA/WPA2

BLE RF Specification

Transmit Power	Max.: 4dBm
RF Power Accuracy	+/- 4 dB
Receiver Sensibility	-96 dBm @250kbps, 0.1% BER -90 dBm @1Mbps, 0.1 %BER
Maximum Received Signal Strength at <0.1% PER	0dBm
Frequency Deviation	+/-250 kHz @BLE

Antenna	on board PCB antenna
Range	30M in open space

Dimension

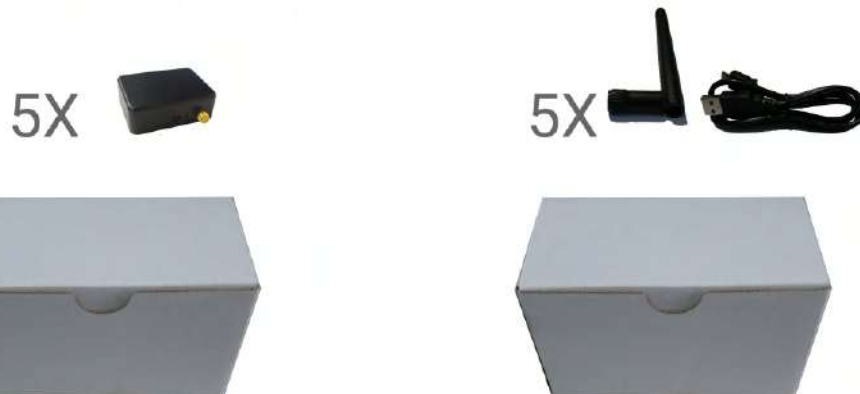
Dimensions L x W x H (mm)	55 x 41 x 18 (not including dipole antenna)
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Packing

Each iGS01S has it's accessory including a dipole antenna and micro-USB cable.



Two packing boxes(size: 11cmX5.5cmx6.5cm) contains 5 units of iGS01S and accessories.



Revision History

DATE	REVISION	CHANGES
Apr 16, 2018	01	Initial release
Feb 15, 2019	01a	Add CE DOC on the last page
Dec 12, 2019	01b	Wording fix